

Classical Text in Mathematics and Statistics

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How to Become a Pure Mathematician (or Statistician):
a List of Undergraduate and Basic Graduate Textbooks and Lecture
Notes

Stage 1

Halmos P.R. Naive Set Theory
Graham R.L., Knuth D.E. and Patashnik O. Concrete Mathematics: A
Foundation for Computer Science
Hardy G.H. A Course of Pure Mathematics
Spivak M. Calculus

Stage 2

Shilov G.E. Linear Algebra
Courant R. and John F. Introduction to Calculus and Analysis II/1, II/
2
Brown J.W. and Churchill R.V. Complex Variables and Applications
Simmons G.F. and Krantz S.G. Differential Equations: Theory,
Technique, and Practice

Stage 3

Kolmogorov A.N. and Fomin S.V. Introductory Real Analysis
Rudin W. Principles of Mathematical Analysis
Artin M. Algebra
Jacobson N. Basic Algebra I
Munkres J.R. Topology
Steen L.A. and Seebach J.A. Counterexamples in Topology
DeGroot M.H. and Schervish M.J. Probability and Statistics
Feller W. An Introduction to Probability Theory and Its Applications
Vol. 1

Stage 4

Foundations and Discrete Mathematics:
Andrews P.B. Introduction to Mathematical Logic and Type Theory
Copi I.M. Symbolic Logic

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Enderton H.B. A Mathematical Introduction to Logic
Hamilton A.G. Logic for Mathematicians
Mendelson E. Introduction to Mathematical Logic
Shoenfield J.R. Mathematical Logic
Jech T. Set Theory
Kunen K. Set Theory
Bollobas B. Modern Graph Theory

Analysis:

Riesz F. and Sz.–Nagy B. Functional Analysis
Yosida K. Functional Analysis
Ahlfors L. Complex Analysis
Rudin W. Real and Complex Analysis
Stein E.M. Harmonic Analysis

Algebra:

Herstein I.N. Topics in Algebra
Hungerford T.W. Algebra
Jacobson N. Basic Algebra II
Lang S. Algebra
Rotman J.J. An Introduction to the Theory of Groups
Stewart I. Galois Theory
Atiyah M.F. and MacDonald I.G. Introduction to Commutative Algebra
Cartan H. and Eilenberg S. Homological Algebra
Mac Lane S. Categories for the Working Mathematician

Number Theory:

Hardy G.H. and Wright E.M. An Introductory to the Theory of Numbers
Hasse H. Number Theory
Serre J.–P. A Course in Arithmetic
Neukirch J. Algebraic Number Theory
Weil A. Basic Number Theory
Stoppole J. A Primer of Analytic Number Theory: From Pythagoras to Riemann

Geometry:

Coxeter H.S.M. Introduction to Geometry
Hartshorne R. Algebraic Geometry
Spivak M. A Comprehensive Introduction to Differential Geometry 1, 2, 3, 4, 5
do Carmo M.P. Riemannian Geometry
Mandelbrot B.B. The Fractal Geometry of Nature

Topology:

Hatcher A. Algebraic Topology
Milnor J.W. Topology from the Differentiable Viewpoint

Further Calculus, Physics:

Evans L.C. Partial Differential Equations
Feynman R.P. Feynman Lectures On Physics

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Probability:

Billingsley P. Probability and Measure
Chung K.L. A Course in Probability Theory
Feller W. An Introduction to Probability Theory and Its Applications
Vol. 2
Kallenberg O. Foundations of Modern Probability
Loève M. Probability Theory I, II
Shiryayev A.N. Probability
Doob J.L. Stochastic Processes

Statistics:

Casella G. and Berger R.L. Statistical Inference
Kendall M. Stuart A. and Ord J.K. Kendall's Advanced Theory of
Statistics, Volume 1: Distribution Theory
Kendall M. Stuart A., Ord J.K. and Arnold S. Kendall's Advanced Theory
of Statistics: Volume 2A –Classical Inference and the Linear Model
Kendall M. and O'Hagan A. Kendall's Advanced Theory of Statistics:
Volume 2B: Bayesian Inference
Lehmann E.L. and Casella G. Theory of Point Estimation
Lehmann E.L. and Romano J.P. Testing Statistical Hypotheses
Kutner M.K., Nachtsheim C.J., Neter J. and Li W. Applied Linear
Statistical Models
Anderson T.W. An Introduction to Multivariate Statistical Analysis
Johnson R.A. and Wichern D.W. Applied Multivariate Statistical
Analysis
Bernardo J.M. and Smith A.F.M. Bayesian Theory
Gelman A., Carlin J.B., Stern H.S. and Rubin D.B. Bayesian Data
Analysis
Agresti A. Categorical Data Analysis

Biostatistics:

Jewell N.P. Statistics for Epidemiology
Woodward M. Epidemiology: Study Design and Data Analysis
Diggle P., Heagerty P., Liang K.-Y. and Zeger S. Analysis of
Longitudinal Data
Fitzmaurice G.M., Laird N.M. and Ware J.H. Applied Longitudinal
Analysis
Kleinbaum D.G. and Klein M. Survival Analysis: A Self-Learning Text

<http://hk.mathphy.googlepages.com/puremath.htm>

<http://hbpms.blogspot.com/>

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